



WebIZ Upgrade Version 16.4 Release Contents

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ENVISION
TECHNOLOGY PARTNERS

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Change Log

The following table captures the progression of this document over time.

Version	Date	Description	Author
1.0	05/31/2016	Initial version of document	Lucía Lapaz

Overview

This document describes the most notable new features and updates that are available in the .NET application in the v16.4 release. It assumes the audience is already familiar with the general “look and feel” of the .NET application.

Note that this document may not be inclusive of every change being delivered. Every attempt has been made to identify the noteworthy changes to the application. The changes that impact the underlying application framework and/or database schema but do not impact the user interface have not been included in this document.

In addition, this document encompasses changes for all customers and is not customized per client specifications. Therefore, some information contained in this document may not apply to certain installations. (For example, updates were deployed to the Hepatitis B module, but a customer may not have that module installed.)

Finally, please consult all patch bulletins for incremental changes that have been incorporated into the 16.4 release. Patch bulletins are posted on the Knowledge Base at <https://envisiontechnology.sysaidit.com>.

General Updates

- The *Trouble Logging In?* help page now references client-specific application names.
- A support link has been added to the header bar, enabling a user to click the link and view the local helpdesk contact information.
- Changed the test environment notification displayed on login from a pop-up window to a modal notification.
- New type-ahead feature has been enabled for all global users. Instead of selecting a Provider/Clinic from the drop-down menus, global users can begin typing a Provider, Clinic, or VFC PIN and select from a list of matching Provider/Clinics.
- In-app and email notifications have been added for the following VTrckS events:
 - Vaccine order is submitted to program for approval
 - Sent to global users and users associated to the clinic with security function 'VTRCKS-EXTRACT PROVIDER ORDER DATA'
 - In order for this in-app notification to be dismissed, the corresponding order must either be approved or rejected
 - The link in the email notification takes the user to the *VTrckS Interface > Provider Order Data* page
 - Vaccine order has been approved/rejected, VTrckS shipment file has been uploaded/shipment pending
 - Sent to global users and users associated to the clinic with security function 'MANAGE VACCINE INVENTORY'
 - These in-app notifications are dismissed as soon as the notification is clicked
 - The link in the order approved/rejected email notification takes the user to the *Inventory > Vaccines > Vaccine Orders* page
 - The link in the pending shipment email notification takes the user to the *Inventory > Vaccines > On-Hand* page
 - Vaccine return is submitted to program for approval
 - Sent to global users and users associated to the clinic with security function 'VTRCKS-EXTRACT PROVIDER RETURN DATA'
 - In order for this in-app notification to be dismissed, the corresponding return must either be approved or rejected
 - This link in the email notification takes the user to the *VTrckS Interface > Provider Return Data* page
 - Vaccine return has been approved/rejected
 - Sent to global users and users associated to the clinic with security function 'MANAGE VACCINE INVENTORY'
 - These in-app notifications are dismissed as soon as the notification is clicked
 - The link in the return approved/rejected email notification takes the user to the *Inventory > Vaccines > Vaccine Returns* page
 - Note: The user creating/triggering the notification does not receive a notification. Email notifications are only sent if a valid email address is entered on the user profile on the *Admin > Users* screen.

Patients

Search

- The currently selected Clinic name and address have been added to the *Patient Administrative Record* report, accessed via a link on the *Patient Search* screen.
- Updated the *Administrative Record* report to now display the patient's **History of Varicella** reason instead of a YES/NO value.
- Added a Patient Preview to the Patient Search Results grid on the *Patients*, *IZ Quick Add*, *CRA (Treatments)*, and *CRA Quick Add* screens. Hover your mouse over a row to view additional information about the patient in a pop-up.
- Added a patient preview to the patient header that pops up when the user clicks the folder icon. Contents of the popup are similar to that shown in patient search, including patient **Default Clinic**.
- DHSS Only: When creating a new patient record, the list of *Possible MCI Duplicates* now displays **Address**.

Demographics

- Modified header text on *Adopt Patient* screen.
- If a patient has one of the following Allergy / Risks, it displays in the **History of Varicella** drop down along with the **Date of Varicella**.
 - Laboratory Evidence of Immunity or confirmation of Varicella Disease
 - Healthcare provider verified history of or diagnosis of Varicella
 - Healthcare provider verified history or diagnosis of Herpes Zoster
- FSM Only: The mailing address fields have been updated to not require **PO Box**, but to require **Village**.
- DHSS Only: **Address is unavailable or Temporary** checkbox is no longer automatically selected when creating a new record from the MCI list for a patient with an address.

Notes

- Enabled a user without delete permission on the Patients module or Delete Patient Notes security function to be able to delete patient notes they created.

Allergy/Risks (Precautions/Contraindications)

- For a Varicella/Zoster allergy / risks in the **History of Varicella** drop down, if the **Require Effective Date** flag for the allergy / risk code is set to YES, the **Effective Date** is required. If it is set to NO, the **Effective Date** is not required.
- Updated the *Allergy / Risks Edit* screen to only allow one of the following risks per patient:
 - Laboratory Evidence of Immunity or confirmation of Varicella Disease
 - Healthcare provider verified history of or diagnosis of Varicella
 - Healthcare provider verified history or diagnosis of Herpes Zoster
 - Note: If the current patient has 1 of these 3 risks and the user adds one of the other 2 values, the previous allergy/risk is deleted and the new allergy/risk is created.

Consent

- The **All** checkboxes on the *Patient Consent* screen have been combined into one **Select All** checkbox that is now aligned with the other boxes on the screen.

Exemptions

- ADH/CO/NM Only: If all Exemptions on a Patient record are Status = Inactive, the Exemptions icon does not display. The Exemptions icon only displays if a patient has one or more Active Exemptions.

Immunizations

General

- On the *Immunizations Home* screen, if the current patient has one of the following Allergy / Risks it displays in the **History of Varicella** text box along with the effective date in the **Date of Varicella** text box.
 - Laboratory Evidence of Immunity or confirmation of Varicella Disease
 - Healthcare provider verified history of or diagnosis of Varicella
 - Healthcare provider verified history or diagnosis of Herpes Zoster

Add Vaccines

- DTaP-Hib no longer shows on the *Add Immunizations* screen.

Administer Vaccines

- A user can now track a vaccine refusal on the *Administer Immunizations* screen even if the administering clinic does not have the vaccine in inventory on-hand.

Add History

- Added the ability for a user to add historical vaccines to a patient record for multiple clinics. This setting is managed on the *User Defaults* screen using the **Add History Mode** field.
- Modified the *Immunization History* screen to display the specific **History of Varicella** and **Date of Varicella**:
 - Laboratory Evidence of Immunity or confirmation of Varicella Disease
 - Healthcare provider verified history of or diagnosis of Varicella
 - Healthcare provider verified history or diagnosis of Herpes Zoster

New Recommender

- If a user has the new RECOMMENDER EVALUATE security function, they can review immunization recommendations in two new windows (the "old" and "new" recommender) by clicking the **Recommend** button on the *Immunizations Home* screen.
 - Added a watermark to the second (new) recommender window to indicate it is only a DRAFT version of the recommender results.
 - Printing the new recommender window generates a PDF report.
- If a user has the RECOMMENDER EVALUATE security function, they can access the recommender *Audit* screen by clicking the **Audit** button on the new *Recommendations* page.
 - The **Audit** button has a dropdown with two options: **Today** and **Future**.
 - A **Download** option is available on the *Audit* screen to save the raw data as a json file that customers can email to Envision for analysis, or upload via the *Upload Audit* screen in the *Administration > Recommender* menu.
 - File naming convention is: PatientId.MM_DD_YYYY.audit.txt
 - Example: 487305.12_31_2015.audit.txt

- Links to specific pages within the latest CDSi recommender logic specification document have been added to the *Audit* screen.
- WebIZ does not recommend **Vaccine Types** that are on the contraindication CVX list if the patient has a corresponding contraindication.
- For whatever target dose is forecasted for the antigens, the preferred vaccine type is forecasted first, followed by vaccines in the Allowable Vaccines section. This is done for every antigen series forecasted (best patient series), and that is the list of potential vaccine types to choose from. Then, among those, vaccines are ordered as follows:
 - Those in Preferred marked with Is Forecast Type = Y has the highest priority.
 - Then those in Preferred with Provider Preferred.
 - Then those in Preferred with System Default.
 - Then those in Preferred with none of the above conditions.
 - Then those in Allowable with Provider Preferred.
 - Then those in Allowable with System Default.
 - Those in Allowable with none of the above.
- All CDSi test cases and all custom (Envision) test cases (those created as a supplement to the CDSi test cases) pass in the new recommender.
- The new recommender shows individual antigen status and reasons in patient vaccination history:
 - The historical vaccination will always display and users can click to see the list of its associated antigen, status, and reason.
 - The antigens shown under a vaccine are the antigens associated with the group displayed.
 - Any rules below for multiple antigens are only for those antigens in that group. Thus, a patient could have the same vaccination with a different status when shown in multiple groups.
 - For vaccination status and reason, the antigen status and reason display if there is just one antigen.
 - For vaccination status when multiple antigens:
 - If any antigens are Not Valid, the "Not Valid" displays.
 - If all antigen statuses are same, then that displays.
 - If antigens statuses are different, and none are Not Valid, "See Antigen Statuses" displays.
 - For vaccination reason when multiple antigens:
 - If all antigen reasons are same, then that reason displays.
 - If antigen status is different, then "See Antigen Reasons" displays.
 - Before the reason column, a "Status" column displays the text of the status for both vaccination and antigen row.
 - If the vaccine status is not equal to "Valid", then the exclamation icon displays.
 - If the antigen status is not equal to "Valid", then the exclamation icon displays.
- The new recommender window in the recommended immunizations for today section will show the specific vaccine preferred by the provider, as well as an indicator if the vaccine is available in inventory.

- Added accordions for every dose in the evaluation and forecast audit screen. This way a user can get to a particular dose easily, then open the accordion for the rules within it. Red or green icons appear next to each historical, evaluated dose, indicating whether the target dose was or was not satisfied. A calendar icon appears next to each forecasted dose.
- Implemented inadvertent vaccine logic in the new recommender.
- In the new recommender window:
 - Each vaccine administered is listed under the appropriate vaccine group. If associated to more than one group, it displays multiple times (one listing in each applicable group).
 - Groups are sorted alphabetically.
 - Dose number is incremented within each group, sorted by date administered.
 Vaccination does NOT get a dose number if it's invalid (will be blank).
- The allergy/risks (precautions/contraindications) section in the new recommender is based on the contraindications the new engine uses, which is broken up between antigen contraindications and vaccine contraindications. It also shows any vaccine types related to immunity via observations.
 - So if a patient has an allergy/risk, the system finds the observation mapping, then finds all of the vaccines contraindicated or immune for that observation. If it's an antigen level, then it's all the vaccines associated to that antigen. If it's a vaccine level, then it's just that vaccine.
 - The print report has been modified accordingly.
- If a vaccine code is set to Show on Add Screen = NO, it will display as NOT ELIGIBLE on the new recommender supporting data vaccine types tab and will never be recommended for a patient.

IZ Quick Add

Immunizations

- On the *IZ Quick Add Immunizations* screen, if the current patient has one of the following Allergy / Risks it displays in the **History of Varicella** text box along with the effective date in the **Date of Varicella** text box.
 - Laboratory Evidence of Immunity or confirmation of Varicella Disease
 - Healthcare provider verified history of or diagnosis of Varicella
 - Healthcare provider verified history or diagnosis of Herpes Zoster

Inventory

Vaccine On-Hand

- The Edit/Adjustment/Transfer/Inquiry buttons on the *Inventory > Vaccines > On-Hand* screen have been combined into a new **Action** button that displays beside each line item. A new *Transactions* screen is accessible via this **Action** button. The *Transactions* screen allows a user to reverse a wastage transaction. This way, only true wastage adjustments are reported in the Provider Wastage Data file for VTckS.

Reconciliation

- The *Vaccine Inventory Reconciliation* screen has been completely redesigned:

- Placed all descriptive information (**Inventory Location, Description, Status**, etc.) about the recon into an accordion area. When the accordion is collapsed, all fields display in a compressed, read-only format. If the user wishes to modify any of the values that can be changed, s/he must expand the accordion to reveal the editable fields. Accordion defaults to open.
- Changed the row/column layout of the *Inventory By Doses* grid:
 - Simplified the column headers to read: *Beginning, Received, Administered, Other Uses, Unaccounted, Difference (+/-)* and *Ending*. *Ending* is always an input field. *Administered* is read-only text when the inventory location is not an aggregate reporter; an input field when it is. *Other Uses* is a sum of *Transferred, Returned/Expired/Recalled*, and *Wasted*. This appears as a link on the page, and when clicked displays a pop-over with the details.
 - Changed the row displays to separate the inventory item into a single line, followed by the counts. Modified the inventory item description to display more cleanly by replacing the pipes with a dot. Added a red clock icon when the inventory expired before or during the current reconciliation period.
 - Replaced the two report icons (and their columns) with a split action button labeled **Reports** that has three selections:
 - **Transactions (This Period)** - *Inventory Transaction Inquiry Report* for the vaccine inventory item, restricted to transactions within the current reconciliation period.
 - **Transactions (All)** - *Inventory Transaction Inquiry Report* for the vaccine inventory item, including all transactions since the vaccine was first added to on-hand through today.
 - **Inventory On-Hand** - Current inventory level for the vaccine inventory item.
- Column headers on the *Reconciliation Edit* screen have been frozen so they do not scroll with content.
- Only funding sources approved for a Provider display in the pop-up that appears when generating the *Inventory Summary by Funding Source* report from either the *Reports* module or the *Vaccine Inventory Reconciliation* screen.

Vaccine Orders

- If a user begins an "IN WORK" vaccine order and adds a vaccine that at the time is 'ON CONTRACT' but then leaves the order in "IN WORK" and returns days later, if the vaccine has since been taken 'OFF CONTRACT' or is 'UNAVAILABLE' they are no longer able to submit the order.

Vaccine Returns

- When vaccines are adjusted from the inventory as a result of a vaccine return submitted to program for approval, or when a rejected vaccine return is deleted and doses on the return are added back to inventory on-hand, a comment is automatically attached to the adjustment reason on the transaction inquiry report.

Inventory Locations

- Modified logic so that an inventory location can no longer be set to Status = Inactive when the following conditions are met:
 - Pending Shipment (Vaccine Order)
 - Pending Transfer
 - Open Reconciliation
 - Vaccines Added but not Administered
 - Inventory On-Hand
 - Pending Vaccine Returns (not approved or rejected)

Hepatitis B

- Kentucky Only: Added the perinatal Hepatitis B module to the WebIZ application.
- The *Hepatitis B Search* screen now only displays/allows search by **SSN** if the application system parameter DISPLAY SSN = Yes.

Reports

Patient

- NV Only: Invalid doses and vaccine refusals are now documented on the *NV Official Immunization Record*.
- KY Only: *Official Immunization Certificate* has been modified to display the first adolescent dose of MCV only if the dose was given to a patient on or after 11 years of age.
- Guam only: Wording under the signature line on the *Official Immunization Record* has been removed.

Forms / Informational Documents

- Added filters for **VTrckS Status** and **VTrckS Facility Type** to the *Provider and Clinic Information* report. **VTrckS Status** and **VTrckS Facility Type** are also included on the report output.
- *Insurance Labels* report has been removed from all applications.

Patient Management

- Created a new report titled *Patient VFC Eligibility History*. The intent is to track the history of changes occurring in **VFC Eligibility** for a patient. Because WebIZ collects eligibility information at the vaccine level, this report provides a mechanism to show how patient VFC eligibility changes. The report is accessible from the main *Reports* screen, as well as from the *Patient Demographics* screen.
- Added **Vaccine Code** and **HL7 Facility Code** fields to the extract version of the *Patient Detail with Services* report.
- *Immunization Rates - Datamart* report: A user is able to create a report and save the criteria to run later. The user can then toggle between different saved report criteria. Click the arrow beside the **Run Report** button to **Save Criteria**. Upon returning to the *Immunization Rates - Datamart* report, click the arrow and select **Run Saved** to auto-populate report criteria previously saved.
- New report titled *Patients with Precautions/Contraindications* report has been added to the *Patient Management* category in the main application and to the *School Nurse* category in the

school application. This report enables a user to generate a report by **Provider/Clinic** or **School District/School** that displays all patients with the selected precautions or contraindications.

- Created a new report titled *Patients with Notes* in the *Patient Management* category, and a school version in the *School Nurse* category. Report filters include: **Provider/Clinic OR School District/School**, multi-select list of note types, and note date range. Output is available in both PDF and Extract. In addition to report filter criteria, output includes patient ID, patient first and last name, patient DOB, patient gender, note author, and note text.

School Nurse

- *Patient Reminder/Recall (School Version)*: **School** and **Grade Level** data have been added to the full extract.
- *Immunization Rates (School Version)* now requires only **Age Range** OR **Grade Range** to generate the report.

Coverage Statistics

- The *VFC (Eligibility) Category Patient Count Report* logic has been modified to include only those vaccinations administered by the selected clinic(s), rather than the patient's default clinic.
- **Vaccine Code** and **HL7 Facility Code** fields have been added to the extract version of the *Dosage Report*.
- Added vaccine series totals to the existing *Dosage Report* PDF output. For example, the total DTaP doses (individual and combo vaccines).
- Added the following columns to the *Immunization Rates - Patients Not Properly Immunized* report extract (all versions):
 - **Mother Name** (from Birth Info section on Demographics) - Maiden Name, Last Name, First Name, Middle Name
 - **Father Name** (from Birth Info section on Demographics) - Last Name, First Name, Middle Name, Generation
- The **Vaccine Borrowing Report** PDF and extract versions now count combination vaccines as one borrowed vaccine, rather than as two or three instances of borrowing.

VFC Program Management

- CDPHE Only: Created a new report titled *Vaccine Order History Details*. This report calculates the number of clinics that placed vaccine orders, the number of vaccine orders placed, the number of doses included in vaccine orders, and the dollar value of ordered doses over a user-defined time period. This report only includes approved vaccine orders that have been submitted to VTrckS.

Inventory Management – Vaccine

- Updated the existing *Inventory Adjustment Inquiry* report:
 - Changed the **Reason For Adjustment** field to a multi-select list.
 - For the extract version of the report, added the cost of the vaccine as a new column.
 - For the HTML version of the report, made the columns wider.

County/Zip - Patient Details

- A patient insurance selection box has been added to the *Patient Reminder/Recall (County/Zip Code Level)* report.

Guam Monthly Usage Reports

- Guam Only: Added a new *Compact Impact Report*.

Flat File Imports

- DHSS Only: Added logging to the *DHSS Flat File Import* screen, including **Total Records**, **Total Errors**, and **Total Warnings**.

HEDIS Report

- Uploaded and processed HEDIS files now display as a log history and are no longer able to be deleted.

Interface Activity – Admin

- Implemented filtering for the columns in the HTML version of the *HL7 Inventory Report*.

Interface Activity – Clinic

- The following updates have been made to the HL7 Activity report:
 - Added **First Call** column to the report output.
 - Added **User name** to search criteria and output.
 - Added **EHR Vendor** and **EHR Product** to search criteria and output.
- Added two new filters to the *HL7 Facility Codes* report: **EHR Vendor** and **EHR Product**. If an **EHR Vendor** is selected, the **EHR Product** field is auto-filtered accordingly. These new fields have also been added to the report output. Also added an Excel output type to this report.

Administrative

- Added a new report titled *Weekly Activity Report*. The report provides a number of newly added patients (new records created), number of updated patient records, and number of vaccinations added (historical and administered), and can be filtered by vaccination date and Provider/Clinic.
- ADH Only: Updated the *Import Statistics* counts for vital records import. Now unmatched patient records will be logged as errors, with an updated message stating as such.

STD

- Added the Multiple Birth Patient indicator to the *STD Patient Search* results.
- Added the Conversation from the Investigation to the *Print with Interview* report. Conversation is ordered in chronological order, starting with the oldest message to the newest. Also, the Conversation starts on a fresh page after the other elements.
- Changed logic of the workflow **HS: Treatment Needed** to include value for CLOSED is not equal to CLOSED.

Settings

- On the *Clinic Vaccine Defaults* and *User Vaccine Defaults* screen, the drop down menu has been removed and the user can now type the vaccine name and it will auto-complete.

Provider Management

- Required fields with missing information are bolded in red and display a red triangle icon above, which when hovered upon notify the user the field is required.

- When a program user or administrator navigates to the *Manage Clinic Address Change Requests* screen to approve or reject an address change, the address fields that have been changed by the clinic user are correctly outlined/highlighted in red.

Administration

Users

- If a user has the new "RECOMMENDER EVALUATE" security function, they can review immunization recommendations in two new windows (the "old" and "new" recommender) by clicking the **Recommend** button on the *Immunizations Home* screen.
- If a user has the "RECOMMENDER EVALUATE" security function, they can access the recommender audit screen by clicking the **Audit** button on the new *Recommendations* page.
- The RECOMMENDER ADMINISTRATION user security function allows users with access to the *Administration* module to Upload Audit files.
- **Comments** on the *User Edit* screen are automatically logged in reverse chronological order for the following scenarios:
 - Each time a password is reset for a user.
 - Each time a User Security Profile is assigned to a user.
 - Each time a user is activated or inactivated, i.e., **Inactive User** check box is selected or de-selected and user profile is saved.
 - Each time a user is locked out and marked as inactive after too many incorrect login or forgot password attempts.
 - Each time view/add/update/delete access to a module is changed.
 - Each time a security function is added or removed.
- **Comments** are now read-only. A new **Administrative Comments** field has been added. This is a free text field for system administrators to enter comments on a user account. Enter comments and click the **Update** button. Any **Administrative Comments** are added to the read-only **Comments** field above.
- If a user has the **HL7 Access** checkbox selected on the *User Edit* screen, their password expiration date is automatically set based on the HL7 - MAX PASSWORD DURATION system parameter value. Otherwise, the user password expiration date is automatically set based on the MAX PASSWORD DURATION system parameter value.
- Modified the logic on the **Password Expires On** field on the *User Edit* page. If the user selects the **Cannot Change Password** checkbox, the **Password Expires On** field becomes editable and the user can enter a date for the password to expire. Using this field while keeping the **Cannot Change Password** box checked enables a user profile to be automatically inactivated on a specified date and prohibits the user from being able to reset their password and login.

Providers and Clinics

- Previously, if a user was only associated to one clinic, and another user tried to delete the association from the *Clinic Edit* screen via the **Assign Users to Clinic** button, they received an error because all users need at least one default clinic. Users are now notified when first navigating to the page that if a user has only one clinic association and that association is removed, the user will be inactivated.
- On the *Provider/Clinic Search* screen, added the ability to search by **HL7 Facility Code**.

- The **HL7 Facility Code Description** and **Code** have been added as a read-only textbox on the *Clinic Edit* page.

Manage User Associations

- Added a new item *Manage User Associations* under the Administration module. The Manage User Associations screen allows for the mass association of users to one or more clinics. This screen also allows administrators to disassociate multiple users from existing clinics in one step. Select **Associate** or **Disassociate**, enter at least one **User** and at least one **Provider/Clinic**, and click **Update**. Note: When disassociating a user from a clinic, and that clinic is the user's only clinic association, the user will be inactivated.

School Districts and Schools

- Added functionality to enable a user to move Schools between School Districts.
- Audit icon has been added to the *School District Edit* screen title bar.

De-Dup and Combine Patients

- Added a record-level match confidence for each duplicate pair found in the patient de-duplication process.
- Modified the patient de-duplicate screen with the following:
 - Range slider for match confidence
 - Range slider for search confidence
 - Option to search by system only
- Created a new security function: Manage Webpage Versions. When granted to a user with access to the *Administration* module and the Combine Patients and De-Duplicate Patients security functions, this function allows the user to see a toggle switch on the *Administration: De-Dup Patients* screen. The toggle switch enables the new *Resolve Patient Duplicates* screen.
- On the *De-Duplicate Patients* and *Combine Patients* screens under the *Administration* module, and via the **View** button on *Duplicates* screen within *Patients* module, the immunizations for each patient are now sorted differently and display in the following order:
 - Vaccine Group
 - Vaccination Date
 - Vaccine (CVX Code)
 - Clinic

Code Tables

Edit Existing

- Several of the allergy/risks listed in the *Allergy/Risk Codes* table have been changed to system-reserved in order to support the new recommender.
 - The following fields are not editable for the system-reserved allergy/risks:
 - **Status**
 - **NIP004 Code**
 - **CDCPHINVS Code**
 - **SNOMED-CT Code**
 - **Vaccines**
 - The following allergy/risks are system-reserved:

- 5 Egg (severe allergy)
 - 10 Immunodeficiency
 - 16 Pregnancy
 - 17 Prior DT (severe allergy to previous dose or component of vaccine)
 - 19 Prior DT/DTAP/DTP - Encephalopathy within 7 days of previous vaccine
 - 24 Prior DTP/DTaP (severe allergy to previous dose or component of vaccine)
 - 25 Prior FLU (severe allergy to previous dose or component of vaccine)
 - 26 Prior HAV (severe allergy to previous dose or component of vaccine)
 - 27 Prior HBV (severe allergy to previous dose or component of vaccine)
 - 28 Prior HIB (severe allergy to previous dose or component of vaccine)
 - 29 Prior IPV (severe allergy to previous dose or component of vaccine)
 - 30 Prior MMR (severe allergy to previous dose or component of vaccine)
 - 32 Prior Td/Tdap (severe allergy to previous dose or component of vaccine)
 - 33 Prior VZV (severe allergy to previous dose or component of vaccine)
 - 37 Latex (severe anaphylactic allergy)
 - 81 Immunity: Hepatitis B
 - 82 Immunity: Measles
 - 83 Immunity: Mumps
 - 86 Immunity: Rubella
 - 105 Prior Pneumococcal vaccine (severe allergy)
 - 106 History of uncorrected malformation of GI tract that would predispose to intussusception
 - 107 History of Intussusception
 - 108 Prior Rotavirus vaccine (severe allergy to previous dose or component of vaccine)
 - 111 Prior HPV (severe allergy to previous dose or component of vaccine)
 - 112 Prior Meningococcal vaccine (severe allergy to previous dose or component of vaccine)
 - 115 Prior Zoster (severe allergy to previous dose or component of vaccine)
 - 122 Prior Diphtheria Toxoid containing vaccine (severe allergy to previous dose or component of vaccine)
 - 133 Immunity: VARICELLA
- *Allergy/Risk Codes* table has been modified to only allow users to add new precautions. Users can no longer modify whether a vaccine is prescribed or not.
 - The **Require Effective Date** flag has been set to YES for the following *Allergy/Risk Codes*:
 - Laboratory Evidence of Immunity or confirmation of Varicella Disease
 - Healthcare provider verified history of or diagnosis of Varicella
 - Healthcare provider verified history or diagnosis of Herpes Zoster
 - Increased **SNOMED-CT Code** max length. Users can now view and save a **SNOMED-CT Code** of up to 18 characters on the *Allergy/Risk Codes* table.
 - Updated the *Vaccine Group Codes* table. Added a new column titled **Administer Full Vaccine Group Flag**, which represents Recommender Supporting Data specification to assist with setting Vaccine Group status. Set DTaP group to Administer Full Vaccine Group Flag = NO. Set MMR group to Administer Full Vaccine Group Flag = YES. All other groups have been set to NULL.

- Added a new checkbox titled **All Grp Rqd**, or All Groups Required (Recommender), to the *Vaccine Code Table Edit* screen. By default, this checkbox is selected for new rows. Zoster (CVX 121) is not selected by default. This flag indicates if the Default Vaccine type for the Vaccine Group will require that all the supported groups be in the current recommendations to be set as the Default Vaccine type.
- CDPHE Only: Updated the error messages on the *Patient Cohort Code Table* to better guide the user when completing required fields.
- Updated the *Address Validation Mappings* code table column header text to match the search criteria field names.
- Onboarding Only: The *Onboarding Resource Documents* code table has been modified so a user cannot create or update a resource document with an inactive resource document type. If a non-valid value is added, an error message describes what needs to be fixed.

New Code Tables

- Onboarding Only:
 - Created a new page for the *Onboarding Resource Document Types* code table in order to:
 - prevent inactivation of type code if one or more active documents associated to the type exist
 - modify the error message the appears when field values are not valid
 - When adding an entry
 - **Resource Document Type Code** is required and limited to 10 characters
 - **Resource Document Type Desc** is required and limited to 50 characters
 - **Status Code** is required
 - **Display Order** is required and limited to numbers only
 - In the edit section
 - **Status Code** will NOT display a drop-down if the **Document Type** is referenced by an active Document.
 - **Resource Document Type Code** is required and limited to 10 characters
 - **Resource Document Type Desc** is required and limited to 50 characters
 - **Status Code** is required
 - **Display Order** is required and limited to numbers only
- DE Only: Added all laboratory code tables for the Hepatitis B module.

Recommender

- Users with the RECOMMENDER ADMINISTRATION security function will see a new *Recommender* menu within the *Administration* module.
- Under the *Recommender* menu is a new screen titled *Recommender Supporting Data*, which provides a view of all CDSi recommender supporting data, including contraindications and risks.
 - Cleaned up existing contraindications/indications of immunity and mapped to the new codes created as part of the recommender rewrite project.
- Created a new recommender audit file upload screen titled *Upload Audit* within the *Administration > Recommender* menu. To access this screen, users must have both the RECOMMENDER ADMINISTRATION and RECOMMENDER EVALUATE user security functions. Run

the new recommender for a patient, view the audit, download the json text file, and upload the file on the new *Upload Audit* screen.

HL7 Management

General

All of the changes below have been made in both the current HL7 engine and the new HL7 engine.

- Modified HL7 logic to account for the following:
 - If NK1-3.2 is sent, but no identifier is sent in NK1-3.3, the message will produce an error/warning.
 - NK1 segment appears in the Message Map in the analyzer!
- An invalid PID-30 will now display a more specific warning or error describing the issue.
- PID-13 returns a more specific warning when the value exists in the HL70201 validation table but is not supported.
- VIS Effective Date and VIS Given Dates sent via HL7 will be added to patient immunization records correctly.

New HL7 Engine

All of the changes below have been made ONLY in the new HL7 engine. Users/facilities are able to send messages against this engine as a second endpoint or through the Execute HL7 Message screen. The official switch to the new engine will not take place until all customers have had a chance to run the new engine in parallel and thoroughly test its functionality.

- A user will receive two individual error messages (one pertaining to the vaccination eligibility and the other to patient eligibility) if patient was given a vaccine they were not qualified to receive due to their eligibility.
- New profiles will always be populated now, regardless of whether or not a profile is passed in.
- Ampersands in PID-5 will no longer be loaded into patient name and instead will be treated appropriately as sub-component separators.
- No longer receive warning message PD1-16 is missing but PD1-17 contains data
- No longer receive warning message when PD1-16=U
- Setup code to allow PR or RR as value to set the NK1/contact as primary contact.
- Now only validating the NPI value if the identifier type or assigning authority was set to NPI.
- An AE message stating the repetition indicator needs to be removed will no longer be returned when the primary phone is not sent.
- If a message contains duplicate CVX in RXA-5, the immunization information will still load properly.
- PID-12 field max length is now 5.
- Increased the character limit in RXA-9.2
- NK1 validation was switched out of Symphonia into the new HL7 engine. This means all the ethnicity codes, languages codes, etc. are based off of the database values instead of the hard-coded values inside of Symphonia.
- A user will receive a warning when an HL7 message contains both a vaccine refusal and new immunization at the same time. Per the implementation guide a warning must be given in the

administrative notes (where a vaccine is identified as a new immunization or historical). This must be empty when a vaccine is marked as refused.

- MSH-16 (Application Acknowledgement Type) is set to NE for ACK messages.
- 2.5.1 Message Profile Identifier has been added for VXU and ACK messages.
- 2.5.1 Messages-A message with a VIS bar code will now pass in correctly.
- A message with the RXA-7 incorrectly formatted will still load into the registry with information from RXA-6.

HL7 Message Log

- Added **Clear** and **Previous Criteria** buttons to the *HL7 Message Log* screen.
- Added custom acknowledgement codes to *HL7 Message Log* screen. Users can search by custom acknowledgement codes, and these codes are displayed in the results. These codes have also been added to the *HL7 Acknowledgement Messages* report filter and output.
- *HL7 Message Log* Quick View and Message Analyzer both display the custom acknowledgement code with a hover text that further describes the custom acknowledgement code.

HL7 Security Log

- Added **Previous** and **Clear** buttons to the *HL7 Security Log* screen.

HL7 Facility Codes

- Added **EHR Vendor** and **EHR Product** to the search criteria on the *HL7 Facility Codes* search screen. The **EHR Vendor** selected will determine what appears in the **EHR Product** drop-down.

HL7 Documentation

- Updated segment descriptions for ACK messages.
- Updated online documentation to show the list of possible values for HL70222 (used in NK1)
- NTE-1 Set ID is no longer an O (optional) field but is required.
- Removed ENV from titles of validation tables and replaced with HL7. User-defined values, managed via system code tables for fields such as gender and race/ethnicity, will display; simply the name or title of the HL7 validation table has been changed.

HL7 Message Analyzer

School Module

- KY Only: Integrated School module has been added to the KY application.
- KS Only: The *KCI Batch Form* has been updated to enable a user to generate the report using either the **Immunization Date Range** or the **Enrollment Open Date Range**.
- CO Only: Editable reports categories *CIIS Forms and Documents* and *Training Materials* have been added to the school application.